

Work Order ID 156817

156817

Page 1

Wednesday, February 08, 2017 9:10:23 AM

Item ID: D3294-5	Accept	*N900040100*	Setup	Start	*NS1*
Revision ID:				Stop	*NS2*
Item Name: Doubler					
Start Date: 2/3/2017	Start Qty: 6.00	*6*	Cust Item ID:		
Required Date: 2/8/2017	Req'd Qty: 6.00	*6*	Customer:		
Reference:					

Approvals:	Process Plan:	<u>DAS 21</u>	Date: <u>FEB 09 2017</u>	Tooling:	Date:	Run	Start	*NR1*
	QC:	<u>9-89</u>	Date:	SPC (Y/N):	Date:		Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3294	D								
100		0.00							
100									
Waterjet	Memo	0.06							
FLOW CNC Waterjet	1-Cut as per Dwg D3294								
	Dwg Rev: <u>D</u>								
	Prog Rev: <u>D</u>								
	****grain direction as per dwg D3294 ****								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.01							
Quality Control									

6 DAS 46 17/02/19
9-89

6 DAS 46 17/02/19
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				
Misidentified ☐	Past Due ☐					

Work Order ID 156817***156817***

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Wednesday, February 08, 2017 9:10:23 AM

Item ID: D3294-5

Revision ID:

Item Name: Doubler

Start Date: 2/3/2017

Required Date: 2/8/2017

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Start Qty: 6.00

6

Cust Item ID:

Req'd Qty: 6.00

6

Customer:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center ID

120

120

QC

Quality Control

Operation
Description

QC8- Inspect parts - second check

Set Up/
Run Hours

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
StampDAS
38
9-89

Memo

0.02

FEB 21 2017

130

130

Brake NC

Brake NC

Memo

1- Deburr if necessary

2- Bend as per Dwg D3294

0.02

0.05

DAS
30
9-89

6

FEB 28 2017

140

140

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.02

DAS
38
9-89
FEB 28 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : _____							

Work Order ID 156817***156817***

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Wednesday, February 08, 2017 9:10:23 AM

Item ID: D3294-5

Revision ID:

Item Name: Doubler

Start Date: 2/3/2017

Required Date: 2/8/2017

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Start Qty: 6.00

6

Cust Item ID:

Req'd Qty: 6.00

6

Customer:

Run Start

NR1

Stop

NR2

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

150

HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.05

Y6

2/20/28

BEB

160

160

QC

Quality Control

QC7-Inspect Chemical Conversion Coat

0.00

Memo

0.01

6DAS
38

MAR 11 2017

170

170

Packaging

Packaging

Identify as per dwg & Stock Location: _____

0.00

Memo

LOCATION : GA

0.01

6DAS
6
9-88

MAR 01 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
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Misidentified ☐	Past Due ☐																																																																

Work Order ID 156817***156817***

Page 4

Wednesday, February 08, 2017 9:10:23 AM

Item ID: D3294-5

Revision ID:

Item Name: Doubler

Start Date: 2/3/2017

Required Date: 2/8/2017

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Start Qty: 6.00

6

Cust Item ID:

Req'd Qty: 6.00

6

Customer:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center ID

180

180

QC

Quality Control

Operation
Description

QC21- Final Inspection - Work Order Release

Set Up/
Run Hours

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Memo

0.10

DAS
21
9-89

MAR 02 2017

DAS
21
9-89

MAR 02 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

Picklist Print

Wednesday, February 08, 2017 9:10:23 AM

Work Order ID: 156817

156817

Parent Item: D3294-5

D3294-5

Parent Item Name: Doubler

Start Date: 2/3/2017

Required Date: 2/8/2017

Start Qty: 6.00

Required Qty: 6.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M2024T3S.080

Purchased

No

100

sf

36.0000

0.065

0.410527

DAS
46
9-89

17/02/19

M2024T3S 080

2024-T3 .080 sheet

**

Location

Loc Qty

Loc Code

MAT021

36

M127668

4

M129584

8.4

M129891

2.9

M135288

6.3

M136347

14.4

0.416

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									

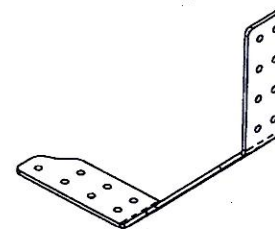
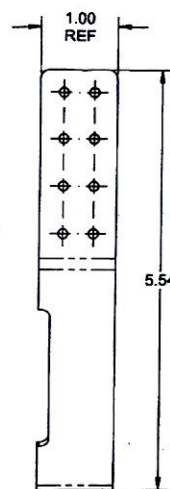
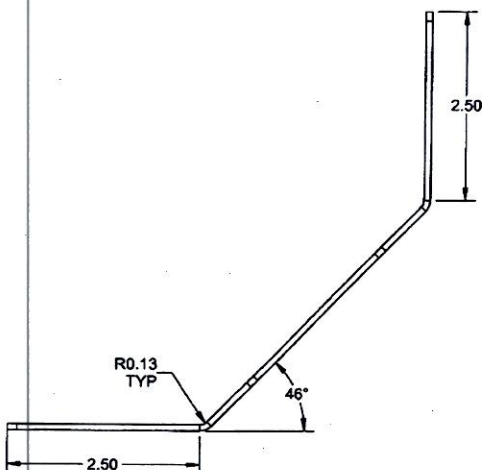
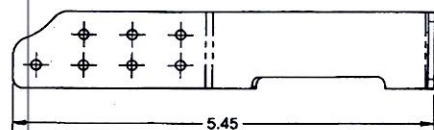
DART AEROSPACE LTD		Work Order: 156817
Description: Doubler		Part Number: D3294-5
Inspection Dwg: D3294	Rev: D	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.129	+0.005/-0.001	0.130	✓		Dial	
0.65	+/-0.030	0.65	✓			
0.30	+/-0.030	0.303	✓			
0.53	+/-0.030	0.53	✓			
3.38	+/-0.030	3.38	✓			
2.50	+/-0.030	2.498	✓			
0.15	+/-0.030	0.15	✓			
9.25	+/-0.030	9.254	✓			
0.400	+/-0.010	0.401	✓			
0.300	+/-0.010	0.295	✓			
0.30	+/-0.030	0.302	✓			
0.625	+/-0.010	0.626	✓			
0.080	+/-0.010	0.080	✓			
1.00	+/-0.030	1.008	✓			

Measured by: DAS 46 9-89	Audited by: DAS 38 9-89	Preliminary Approval:
Date: 17/02/19	Date: FFR 21 2017	Date:

Rev	Date	Change	Revised by	Approved
A	09.07.29	New Issue	KJ	
B	13.06.03	Dwg Rev updated	KJ	



D3294-5 DOUBLER
MADE FROM D3294-5F

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 156817 MJS
17-02-09

RELEASED
2012-11-21

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: CHEMICAL CONVERSION COAT PER QSI 005 4.1
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 0.07 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3294	SHEET 8 OF 9
APPROVED		TITLE	SCALE
DE APPR.		BRACKET	NTS
DATE	12.11.15	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. USE IS LIMITED TO THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



RELEASE
2012-11-21

1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.080 THICK, PER AMS-QQ-A-250/4
OR AMS 4037 OR ASTM B209 (REF DART SPEC M2024T3S.080)

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: N/A

7) WEIGHT: 0.07 lbs

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3294 TITLE BRACKET COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PROVIDED AS INFORMATION AND IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCE AND TO ANY OTHER PERSON OR ENTITY	REV. D
DRAWN			SHEET 9 OF 9
CHECKED			SCALE
MFG. APPR.			NTS
APPROVED			
DE APPR.			
DATE	12.11.15		